

Application No.: 09/608,512
Amendment dated: July 5, 2005
Reply to Office Action dated: May 3, 2005

REMARKS/ARGUMENTS

Claims 1-26 are pending in the application. Claims 1-26 remain in the application. Claims 1, 7, 10, 14, and 19 have been amended to put them into better form.

Claims 7-13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kahle et al., U.S. Patent No. 5,956,495 (hereinafter "Kahle") in view of McCrocklin et al., U.S. Patent No. 4,761,733 (hereinafter "McCrocklin"). Claims 1-6 and 14-26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kahle in view of McCrocklin in view of Shiell, U.S. Patent No. 5,864,697 (hereinafter "Shiell").

Claim Rejections under 35 U.S.C. §103

Claims 7-13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kahle in view of McCrocklin. Kahle generally discloses a series of guest instructions including at least one guest branch instruction and other guest instructions stored in memory (*See Kahle, Abstract*). McCrocklin discloses a direct-execution microprogrammable microprocessor system with an emulatory microprogrammable microprocessor for direct execution of microinstructions in main memory through a microinstruction port (*See McCrocklin, Abstract*).

Applicants respectfully submit that neither Kahle, McCrocklin, nor any combination thereof disclose predicting or determining whether a first micro-op is a bogus branch instruction, as recited in claim 7. McCrocklin does not disclose this element, and the Office Action does not claim such, instead relying on Kahle. The Office Action states:

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However, Kahle has taught predicting whether a first micro-op is a bogus branch instruction. A bogus branch instruction in claims 7-13 is interpreted to be a branch instruction that is not taken. Merriam-Webster's online dictionary defines "bogus" as "not genuine" and "genuine" as "actual or true." Since "Genuine" is interpreted to be "actual", "not genuine" is interpreted to be "not actual." Therefore something that is "bogus" is interpreted to be something that is "not actual." A branch instruction that is not taken is not an actual branch instruction to a non-sequential address, i.e. the branch instruction is not actually branching. Therefore a not taken branch instruction is a bogus, or not an actual, branch instruction. So Kahle has in fact taught predicting whether a first micro-op is a bogus branch instruction (Kahle predicts whether a first micro-op is taken or not-taken, Column 9, lines 56-65 and column 11, lines 1-35). Therefore this argument is moot.

(Office, pp.2-3).

As previously stated, Kahle describes determining whether of a branch has been predicted to be taken or not taken. Contrary to what is asserted in the Office Action, a branch instruction in which the branch is not taken is still a branch instruction. For example, The McGraw-Hill Dictionary of Scientific and Technical Terms, Third Edition defines "branch instruction" as "An instruction that makes the computer choose between alternative subprograms, depending on the conditions determined by the computer during the execution of the program." A branch instruction in Kahle is still present and still allows a computer to conditionally choose between alternative subroutines or programs even if that branch is predicted to be not taken. To apply the term "bogus branch" to the situation described in Kahle is contrary to the plain meaning of the word "bogus" when applied directly to the term "branch instruction".

What the Office Action describes above is a prediction that is bogus and not the branch itself. Thus, claim 7 is not obvious under Kahle in view of McCronklin. In addition, Applicants respectfully submit that claims 8-9 are allowable as depending from

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allowable base claim 7. Accordingly reconsideration and withdrawal of the rejection of claims 7-9 under 35 U.S.C. §103(a) is respectfully requested.

Applicants respectfully submit that neither Kahle, McCrocklin, nor any combination thereof disclose determining whether a first micro-op is a bogus branch instruction, as recited in claim 10. As shown above, Kahle and McCrocklin does not disclose this element. Thus, claim 10 is not obvious under Kahle in view of McCrocklin. In addition, Applicants respectfully submit that claims 11-13 are allowable as depending from allowable base claim 10. Accordingly reconsideration and withdrawal of the rejection of claims 10-13 under 35 U.S.C. §103(a) is respectfully requested.

Claims 1-6 and 14-26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kahle in view of McCrocklin in view of Shiell. Shiell discloses a microprocessor using combined actual branch history and speculative branch history to predict branches (See Shiell, Abstract).

Applicants respectfully submit that neither Kahle, McCrocklin, Shiell, nor any combination thereof disclose determining whether a first micro-op is a bogus branch instruction, as recited in claims 1, 14, and 19. As shown above, Kahle and McCrocklin does not disclose this element. Further, Shiell does not disclose this element, and the Office Action does not claim such.

Therefore claims 1 and 19 are not obvious under Kahle in view of McCrocklin and in further view of Shiell. In addition, Applicants respectfully submit that claims 2-6 and 20-26 are allowable as depending from allowable base claims 1 and 19. Accordingly

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reconsideration and withdrawal of the rejection of claims 1-6 and 19-26 under 35 U.S.C. §103(a) is respectfully requested.

Applicants respectfully submit that neither Kahle, McCrocklin, Shiell, nor any combination thereof disclose removing entries from a branch prediction logic storage buffer that would later produce bogus branches, as recited in claim 14. As shown above, Kahle, McCrocklin and Shiell do not disclose bogus branches in any way.

Therefore claim 14 are not obvious under Kahle in view of McCrocklin and in further view of Shiell. In addition, Applicants respectfully submit that claims 15-18 are allowable as depending from allowable base claim 14. Accordingly reconsideration and withdrawal of the rejection of claims 14-18 under 35 U.S.C. §103(a) is respectfully requested.

In light of the arguments above, reconsideration and withdrawal of the rejection of claims 1-26 under U.S.C. §103(a) is respectfully requested.

For all the above reasons, the Applicants respectfully submit that this application is in condition for allowance. A Notice of Allowance is earnestly solicited.

The Examiner is invited to contact the undersigned at (408) 975-7500 to discuss any matter concerning this application.

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The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 11-0600.

Respectfully submitted,

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